

Please amend claim 16 as shown on the attached replacement pages. As discussed in the remarks, claim 16 is amended to include the limitations expressed in the original claim 20 to explicitly point out and claim the aspects of the invention that are not anticipated or obvious under the cited art.

Please delete claims 17 through 20 from the application.

REMARKS

With respect to the objection to claim 7 because of informalities, applicant has submitted an amended Claim 7 according to the examiner's suggestion. With respect to the objection to claim 7 as being dependent on a rejected base claim, applicant respectfully submits that the proposed amendment to the base claim, i.e., amended claim 1, discussed below, overcomes this objection.

It is respectfully submitted that claim 7 is now in condition for allowance.

With respect to the rejection of claims 1-3, 5, 16, 17, and 19 under 35 U.S.C. § 102(b), as being anticipated by Tigwell (US Pat. 4,796,629), and with respect to the rejection of claims 4, 15, and 20, under 35 U.S.C. § 103(a) as being unpatentable over Tigwell, applicant has proposed amendments combining the limitations of claims 1-4; claims 9, 13-15; and claims 16 and 20. Combining the elements of the original claims in the proposed amended claims 1, 9, and 16, clarifies and explicitly claims aspects of applicant's invention neither anticipated nor rendered obvious by Tigwell.

It is acknowledged that Tigwell describes mercury switches that may be interpreted as a "first accelerometer" used as an "ON" switch, and a "second accelerometer" used as an "OFF" switch. Such an arrangement, however, does not anticipate the advancement of the art by the dual-accelerometer "ON" switch of the present invention. It is respectfully submitted that

Tigwell, alone or in combination with any other cited art, does not teach or suggest the use of a reference axis accelerometer with a primary axis accelerometer to avoid spurious triggering of the safety light. Applicant respectfully submits that the present invention provides a solution to a problem unrecognized by Tigwell and contemporary art.

Tigwell proposes that, “[t]he single mercury switch 14 [Referring to Figure 2] will suitably sense deceleration and acceleration forces and can be used by itself for actuating and deactuating the light.” (col. 2, lines 32-34). Thus, according to Tigwell, a single accelerometer is used for actuating, and sometimes also for deactuating, the light. Tigwell also proposes a second accelerometer, i.e., a mercury tilt switch, “for measuring acceleration and turning off the light.” (col. 2, lines 34-39). It is acknowledged that Tigwell discloses and claims, “a first accelerometer...for lighting the light...” and, a “second accelerometer...for turning off said light...”. (col. 2, lines 32-58; and claims 1-4). Applicant respectfully submits that the subject invention adds non-obvious novel and advantageous improvements to the art by providing a more sophisticated arrangement of a *first and second accelerometer for turning on the light*. A problem not recognized by Tigwell, but addressed and solved by the applicant, is that apparatus such as that described by Tigwell is designed to turn on the light in response to acceleration of the “first accelerometer” alone. It is believed that in practice this would result in spurious triggering of the light caused by events such as the tilting of the wearer’s head. Perhaps not surprisingly, given the relatively primitive mercury switches then existent in the art, Tigwell does not address these potentially spurious “ONs”, but at best only turns them “OFF” with a “second accelerometer”. The present invention, however, uses a first and second accelerometer, “termed primary axis” and “reference axis” accelerometers (para. 020, claims 4, 15, 20, amended claims 1, 9, 16), to ensure that an “on” is triggered only upon the deceleration of both, thereby preventing the activation of the light except in situations where the entire safety helmet is decelerating, e.g., with respect to both the primary axis and the reference axis. (para. 020). This dual-acclerometer “ON” approach is neither disclosed by, nor rendered obvious by

the “ON” mercury switch used with an “OFF” mercury switch of Tigwell. There is nothing in the references that suggests, or that would lead one skilled in the arts to the use of, a reference axis accelerometer as a means for canceling out spurious “ON” signals indicated by the primary axis accelerometer.

It is respectfully submitted that independent claims 1, 9, and 16 are now in condition for allowance. Thus amended claims 7, and 10-12, which are dependent on claims 1 and 9 respectively, are also in condition for allowance.

Claims 8-14 have also been rejected under 35 U.S.C. § 103(a), as being unpatentable over Tigwell (US Pat. . 4,796,629) in view of DeBeaux (US Pat. 5,416,675). Claims 8, and 13-14 have been withdrawn. Claims 9-12 remain. As discussed, the added limitation narrowing claim 9 as amended to a circuit having both a primary axis accelerometer and a reference axis accelerometer for turning on a light source is not suggested by Tigwell, DeBeaux, or a combination thereof. There is nothing in the cited references or contemporary art that would suggest to one reasonably skilled in the art to make such an advancement in combination with the further limitations of amended claims 10-12, which are dependent on amended claim 9.

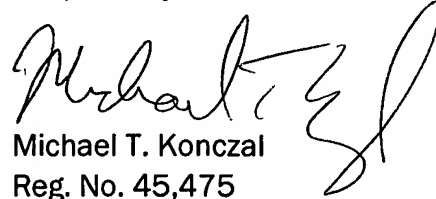
Claims 6 and 18 have been rejected under 35 U.S.C. § 103(a), as being unpatentable over Tigwell (US Pat. 4,796,629) in view of Chien (US Pat. 5,570,946). Claims 6 and 18 have been withdrawn.

CONCLUSION

Applicant respectfully requests favorable reconsideration of the application and allowance of claims 1, 7, 9-12, and 16 in light of the proposed amendments, and remarks.

If the Examiner has any other questions or concerns regarding this application, the Examiner is encouraged to contact the undersigned attorney to resolve these matters by Examiner's Amendment and/or a teleconference wherever possible.

Respectfully submitted,



Michael T. Konczal
Reg. No. 45,475

Michael T. Konczal
P.O. Box 863656
Plano, TX 75086

(214) 228-3641 - tel
(972) 608-2947 - fax